

PROLOTHERAPY INJECTIONS (UPDATED AUGUST 2007)

CLINICAL QUESTION

Are prolotherapy injections safe and effective in the management of chronic non-malignant low back pain ≥ 3 months' duration?

THE EVIDENCE

Treatment	Condition	Comparator	Relevant Results/Authors' Conclusions [#]
Prolotherapy injections [†] Glycerine, phenol, lidocaine (lignocaine) or procaine, and glucose or dextrose (10 mL; 3 weekly or fortnightly treatments) Glucose and lignocaine (10 mL to 30 mL; average of 7 fortnightly treatments)	Chronic non-malignant, non-specific low back pain (> 3 months' duration)	Control injections (lidocaine [lignocaine], procaine, or saline)	Strong evidence of no difference between prolotherapy injections and control injections in reducing pain or disability. Follow-up at 1, 3, 6, 12, and 24 months. No difference in safety between prolotherapy injections and control injections. Follow-up at 1, 3, 6, 12, and 24 months.
Prolotherapy injections [‡] Glycerine, phenol, lidocaine (lignocaine), and glucose (20 mL to 30 mL; 6 weekly treatments) plus a co-intervention (combined manipulation, flexion/extension exercises, exercise, and gluteal tender point injections)	Chronic non-malignant, non-specific low back pain (> 6 months' duration)	Control injections (saline or lidocaine [lignocaine]) and co-interventions (including either manipulation or sham manipulation)	Strong evidence that prolotherapy injections plus combined manipulation, flexion/extension exercises, exercise, and gluteal tender point injections improved pain and disability scores more effectively than control injections combined with these or sham co-interventions. Follow-up at 1, 3, and 6 months.

[†]Based on two **GOOD*** and one **AVERAGE*** quality randomised controlled trials (RCTs), as assessed by the authors of this review, published between 1987 and 2004; [‡]Based on two **GOOD*** quality RCTs published in 1987 and 1993; [#]Refer to Grading Key document for explanation of evidence grading.

IMPLICATIONS FOR PRACTICE

What we don't know:

- Are prolotherapy injections more effective than non-injection therapies or no treatment?
- Are prolotherapy injections more effective in particular patient subgroups?
- Is there a dose response to prolotherapy injection, and if so, what is the minimum dose/intensity required to achieve a clinically significant treatment effect?
- Does the needling action, the injection solution, or both, contribute to the treatment effect?
- Which of the various co-interventions commonly used in prolotherapy (e.g. superficial skin injection of local anesthetic, vitamin/mineral supplements) is the most effective?

Research Evidence: What we know

In patients with chronic low back pain, evidence indicates that prolotherapy injections:

- are not effective as a sole treatment;
- may be effective when used in conjunction with combined manipulation, flexion/extension exercises, exercise, and gluteal tender point injections.

Prolotherapy injections are not associated with serious or permanent adverse effects. However, they may result in a transient increase in pain and stiffness.

Repeated prolotherapy injections, irrespective of the solution used, may give prolonged improvement in pain and disability when administered as part of a multimodal treatment program.

Recommendation from Clinical Ambassadors

Prolotherapy is only appropriate in carefully selected and monitored patients who are participating in an appropriate program of exercise and/or manipulation/mobilization.

The Clinical Ambassadors: Dr Ted Findlay, Dr Saifee Rashid, Dr Paul Taenzer

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Reference: This Evidence Brief is based on results from a **GOOD*** quality systematic review (SR). Dagenais S, Yelland MJ, Del Mar C, Schoene ML. Prolotherapy injections for chronic low-back pain. *Cochrane Database Syst. Rev* 2007;(2):CD004059.

***Quality ratings for RCTs & SR:** Good ● Average ● Poor ●

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